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REVIEW OF GENUS LOXOTOMA (LEPIDOPTERA: STENOMIDAE)

By W. DONALD DUCKWORTH

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NEOTROPICAL MICROLEPIDOPTERA, XIII [1]

REVIEW OF GENUS LOXOTOMA (LEPIDOPTERA: STENOMIDAE)

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This paper represents a part of a continuing study of the moths of the family Stenomidae in the Neotropical Region. The genus *Loxotoma* Zeller as herein defined consists of two species that present rather contrasting pictures when viewed in the light of previous and present knowledge. One, *L. elegans* Zeller, is widely distributed throughout the Neotropics, reasonably well represented in major collections, and has been alluded to in the literature a number of times since its original description; the other, *L. seminigrescens* Meyrick, is known only from the type-locality, represented only by

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a type that is without abdomen and is recorded in the literature only by its original description, which consists of three and one-half lines.

In this paper the genus is redefined, the two species redescribed and illustrated, and comparative remarks made on both the generic and specific levels.

The author wishes to acknowledge with thanks the cooperation and aid of the following persons who have allowed him to study the types and specimens in their charge: Mr. P. E. S. Whalley and Mr. Alan Watson of the British Museum (Natural History); Dr. J. G. Franclemont of Cornell University; Dr. Klaus Sattler, Zoologische Sammlung des Bayerischen Staates, Munich; and Dr. Fritz Kasy of the Naturhistorisches Museum, Vienna.

The author also wishes to acknowledge the assistance of Mrs. Sandra Duckworth in all phases of the study. The map and line drawings were done by Mr. Andre Pizzini and the photographs by Mr. Jack Scott.

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History

The genus *Loxotoma* was proposed by Zeller (1854, p. 383) to accommodate a single Neotropical species, *elegans*. Busck (1909, p. 213) in his remarks concerning a new species, *Stenoma loxotoma*, stated: "This species would, on account of the striking wing form and the peculiarly thickened front tarsi, fall in Zeller's genus *Loxotoma*, which I, however, am unable to consider a good genus." Busck failed, however, to transfer *L. elegans* to *Stenoma*, and *Loxotoma* continued to exist in the literature as a monobasic genus. Walsingham (1913, p. 158) formally placed *Loxotoma* in synonymy with *Stenoma* without comment, probably an indication that he was following Busck's earlier opinion. Meyrick (1915, p. 382), apparently not in agreement with Busck's comments on the validity of *Loxotoma*, removed it from synonymy and added another species, *rhodanthes*, which he described from British Guiana. One year later, Meyrick (1916, p. 509) stated that he had erred in describing *rhodanthes* and that further study revealed the specimen to be an extreme form of *elegans*, thus requiring that it be placed in synonymy. In a list of species of Microlepidoptera collected in Brazil by Dr. H. Zerny, Meyrick (1930, p. 237) recorded *L. elegans* from Taperinha and mentioned that it was also known from Colombia, Venezuela, Guiana, and Peru. Two years later, Meyrick (1932, p. 288) very briefly described another species, *L. seminigrescens*, from a single female specimen collected in Petrópolis, Brazil, by J. G. Foetterle. Busck (1934, p. 18), apparently having reversed his earlier

opinion, listed *Loxotoma* in the Stenomidae part of the "Lepidopterorum Catalogus" series with three included species, *elegans*, *seminigrescens*, and *liniella* (Busck), the latter a species that Busck (1910, p. 80) had described and placed in *Stenoma*. Clarke (1955, p. 223) illustrated the wings and genitalia of the type of *rhodanthes* Meyrick and reiterated its synonymy with *L. elegans*. Duckworth (1962, p. 113) transferred *liniella* (Busck) from *Loxotoma* to *Timocratica*, thus reducing the number of species of *Loxotoma* to the two covered in this paper.

Genus *Loxotoma* Zeller

Loxotoma Zeller, 1854, p. 383.

Type-species: *Loxotoma elegans* Zeller, by monotypy.

Head rough, lateral tufts somewhat spreading. Labial palpus large, sharply recurved; second segment thickened ventrally with appressed scales; apical segment acute, shorter than second. Forewing with costa arched sharply at midpoint then tapering to apex, apex sharply rounded, termen slightly oblique, tornus rounded; with 12 veins, all separate, 3 and 4 approximate, 6 and 7 approximate, 7 to apex, 12 somewhat sinuate due to sharp arch in costa. Hindwing broader than forewing; with eight veins, 3 and 4 connate or stalked, 5 approximate to 3 and 4, 6 and 7 stalked. Abdomen of males with strong, eversible pair of hair pencils contained in an elongate cuplike pocket on first sternum.

Male genitalia: Harpe broad, rounded at apex, saccular margin with numerous short, heavy setae; anellus with four lateral lobes that adhere closely to aedeagus; uncus broad, slightly recurved, with setiferous dorsal hump at apex; arms of gnathos separate.

Female genitalia: Ovipositor lobes long, narrow; tergite and sternite of eighth abdominal segment fused laterally forming a complete ring; anterior apophyses short, heavy, laterally curved; ductus bursae, corpus bursae, membranous; signum consisting of two heart-shaped dentate plates connected by a narrow sclerotized band.

This genus is easily recognized on the basis of its size and wing shape. It is related to the genus *Timocratica* in both superficial characters and structures of the genitalia; however, it is readily separated by the separate gnathos in the male genitalia and the fusion of the eighth tergite and sternite in the female genitalia.

Key to Species of *Loxotoma* Based on Color

Hindwing whitish with rosy overcast at apex, which may extend over entire wing; ground color of forewing yellow brown . . . . . **elegans** Zeller

Hindwing dark gray on basal half, becoming rosy brown posteriorly; ground color of forewing orange brown . . . . . **seminigrescens** Meyrick

Loxotoma elegans Zeller

PLATE 1 (FIG. 1); FIGURES 1–9; MAP 1

Loxotoma elegans Zeller, 1854, p. 384.
Loxotoma rhodanthes Meyrick, 1915, p. 382.

Alar expanse 30–48 mm.

Antenna brown. Head yellow brown with slight rosy overcast; second segment of labial palpus yellow brown overcast with rose exteriorly, apical segment yellow brown. Forelegs with femur and tibia red, tarsi fuscous overcast with rose; mid- and hindlegs white with first tarsal segment shaded with rose dorsally. Thorax and tegula yellow brown with darker raised median line. Forewing light yellow brown; dorsum edged with brown; costa edged with rosy brown on basal and apical fourths; a faint brown outwardly curved transverse line from costa to dorsum at apical fourth; a faint transverse linear brown mark at end of cell; a faint brown line from costa at basal fourth slanting outward toward dorsum to fold; a triangular black spot on middle of costa; termen narrowly brown; cilia rosy shaded with brown, above apex shortly suffused with fuscous. Hindwing whitish with rosy overcast from apex varying from slight to entire wing; cilia light rosy at anal angle to red at apex.

Male genitalia (slide WDD 3320): Arms of gnathos somewhat variable in shape and setation (see figures); anellar lobes consisting of two ventral fleshy digitate setiferous lobes and two dorsal medially curved bladelike lobes; aedeagus with area of small spines near apex, vesica without cornuti.

Female genitalia (slide WDD 3645): Eighth sternite with a median groove extending to ostium, fused laterally with eighth tergite forming sclerotized cylinder; ostium V-shaped; ostium bursae extremely small, sclerotized; inception of ductus seminalis very near ostium.

Type: In the Zoologisches Museum der Humboldt-Universität zu Berlin.

Type-locality: Orinoco, Colombia (*elegans*); Bartica, British Guiana (*rhodanthes*).

Distribution: GUATEMALA: Cayuga (no date). BRITISH HONDURAS: Punta Gorda (August). PANAMA: Barro Colorado Island (March–May). COLOMBIA: Orinoco (no date). VENEZUELA: Las Quiguas, Esteban Valley (March–November); Palma Sola (no date); La Vuelta, Cauro Río (May). TRINIDAD: Caparo (November). BRITISH GUIANA: Potaro (April); Tumatumari, Potaro River (June); Demerara River (no date); Omai (no date); Christianburg, River Demerara (no date); River Demerara (no date); Bartica (December). SURINAM: Aroewarwa Kreek, Maroewym Valley (April–June); Paramaribo (November). FRENCH GUIANA: St. Jean, Maroni (no

date); Godebert, Maroni (February); Nouveau Chantier (no date); St. Laurent (no date). BRAZIL: Manacapuru (June); Hyutanahãn, Rio Purus (January, February); Nova Olinda, Rio Purus (May); Santo Antônio do Javary (June); Teffé (January, September); Fonte Boa (May); Ponte Nova, Rio Xingu (no date); Nova Teutônia (October); Sta. Catharina (no date); Rio Madeira, 300 mi. up river (no date); Maués (no date). PERU: Yahuarmayo (April); Tingo María (November, December); Pumayaca (no date); La Oroya, Río Inambari, 3100 ft. (January, March). BOLIVIA: Chaparé-Gebiet, Río Chipiriri, 400 m. (October, November); Río Yacuma, Santa Rosa, 250 m. (December); Rurrenobaque (October).

I have examined the male genitalia of a large series of specimens from localities throughout the range of this species and find that the variation in shape and setation of the gnathal arms is random and not of specific or subspecific significance. The same is true of the degree of rose shading on the hindwing.

The color characters given in the key serve to distinguish *L. elegans* from *L. seminigrescens;* however, further comparative remarks are impossible until additional specimens of *L. seminigrescens* are obtained.

Loxotoma seminigrescens Meyrick

PLATE 1 (FIG. 2); MAP 1

Loxotoma seminigrescens Meyrick, 1932, p. 288.

Alar expanse 37 mm.

Antenna brown. Head orange brown overcast with rose; second segment of labial palpus brown overcast with rose exteriorly, apical segment brown. Forelegs reddish brown deepening to fucous at last tarsal segment; midlegs white with dorsum of tibia, entire tarsi brown, hindlegs missing. Thorax, tegula, forewing as in *elegans* except ground color orange brown. Hindwing dark gray on basal half, becoming rosy brown posteriorly; cilia rose basally, brown beyond.

Male genitalia; Unknown.

Female genitalia: Unknown

Type: In the Naturhistorisches Museum, Vienna.

Type-locality: Petrópolis, Brazil.

Distribution: Known only from the type-locality.

Through the kindness of Dr. Fritz Kasy and the Naturhistorisches Museum, Vienna, I have had the opportunity to study the type of this species, a female, which is the only specimen known and which is without abdomen. The orange color and dark hindwings afford separation from *L. elegans;* however, final judgment concerning its validity must be reserved pending the acquisition of additional material and study of the genitalia.

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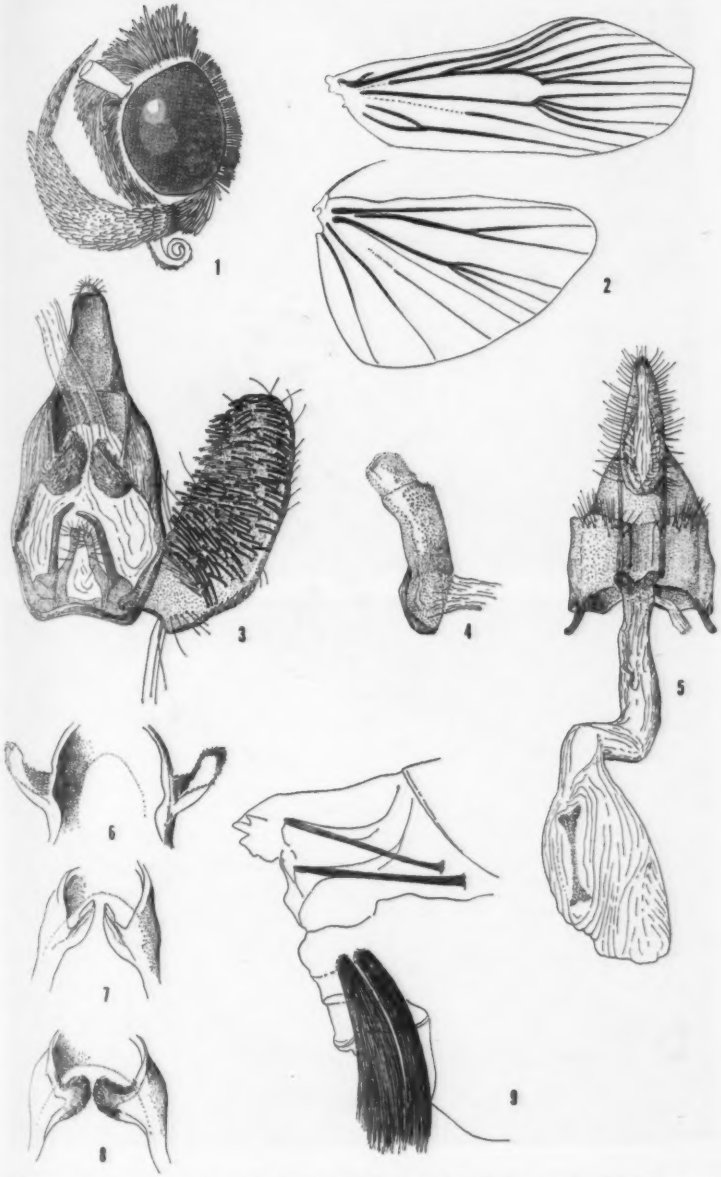

FIGURES 1–9.—*Loxotoma elegans* Zeller: 1, lateral view of head; 2, wing venation; 3, ventral view of male genitalia with left harpe and aedeagus removed; 4, aedeagus; 5, female genitalia; 6–8, variation in gnathal arms; 9, lateral view of abdominal hair pencils.

MAP 1.—Distribution of species.

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Left wings: 1, *Loxotoma elegans* Zeller; 2, *L. seminigrescens* Meyrick.